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The water-gate tower at the upper end of the conduit is of reinforced concrete construction, 40 meters high. Eight hydraulically operated lock gates 1.75 meters square will be installed to control the flow of water.

The forebay outside the tunnel's exit is provided to prevent erosion from the force of the water. It is built of reinforced concrete.

Spillway

The spillway is a sort of safety exit. If lock gates develop any stoppage and the flood waters need to be drained off they can flow over the spillway at the left end of the dam and into a channel that extends for 431 meters. At the inlet it is 23 meters wide and lower down is 20 meters wide. To prevent erosion it is lined with reinforced concrete.

Construction Statistics

The storage capacity of the reservoir will be 2,270,000,000 cubic meters. The engineering work, including the transport trackage, involves the moving of 2,500,000 cubic meters of earth and stone and the using of 47,500 cubic meters of concrete. There are 40,000 laborers working on the project night and day. Light railway tracks crisscross the field of operations with a total length of 120 kilometers, comparable to the distance between Peiping and Tientsin. The numerous trestles involved have a length of 2,100 meters.

Soviet Experts Help

The Soviet geologist, A-lo-t'e-chi [Arotski?], and the water conservation experts, Bukhov and Shabayov, made frequent on-the-spot studies of the project and gave many valuable suggestions concerning construction. It was a Soviet expert who proposed that the dam be constructed largely of earth to save cement.

Machinery From All Parts of China

As soon as the work was started, all sorts of machinery and materials were transported from all over the country. Bulldozers came from the Yellow River, the Yangtze River, the Huai Ho, the Pearl River and the Chien-t'ang Chiang. From Peiping, Shanghai, Tsinan, and Hsin-yang came cement mixers, boring machines, compressed air machinery, electric generators, and pumps.

Materials and Men From Many Parts

Pine lumber from Inner Mongolia and steel from An-shan were used. Stone from Nan-k'ou and cement from Liu-li-ho were accumulated for the task. Cadres, students, laborers, and farmers from all over China consider it an honor to share in this enterprise. Workmen included many who had worked on the Huai Ho project and the Ching-chiang Flood Diversion Project.

Estimated Time of Completion

The engineering work was begun in November 1951. It is estimated that all work will be completed by the spring of 1954. By the end of June 1953, the reservoir will begin to retain water, but the entire construction must be completed before it can contain its full capacity of 2,270,000,000 cubic meters. By the end of June 1953, the barrier dam will be 35 meters high, and by the end of September 1953, it will have attained its full height of 45 meters.

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Benefits To Be Derived From the Reservoir

In periods of drought the reservoir will furnish a constant supply of water, irrigating fields and providing to some degree water for industrial purposes for the Shih-ching Shan and the Peiping-Tientsin area. It will produce electricity to power the machinery of many factories and will control 95 percent of the flood waters of the Yung-t'ing Ho. In the future, when a canal is dug connecting Peiping and Tientsin, the reservoir will regulate the supply of water in the canal.

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